

IN THE CLAIMS

Please amend claims 1-6, 8-15, 22-23, 29-30, 33, 35, 39, and 42 as indicated below.

1. (Currently Amended) A system comprising:

a plurality of web servers running the distributed authoring and versioning (WebDAV) enabled hypertext transfer protocol (HTTP) coupled to the internet; and

a plurality of personal computers coupled to the internet, each personal computer comprising ~~an operating system extension~~ a file system plug-in communicatively coupled to a file system of an operating system that forwards file system requests involving file systems stored on one of the plurality of web servers to a network access application program on the personal computer that sends the file system requests as ~~at least one a WebDAV or HTTP~~ request to an appropriate web server, wherein the file system requests include a filename of a file being accessed and wherein if the filename includes one or more characters that are unrecognized by the web server, the network access application program converts the unrecognized characters of the filename into one or more escape sequences recognizable by the web server prior to transmitting the converted file system requests to the web server, the one or more escape sequences representing the one or more unrecognizable characters wherein the file system requests are received by a file system of the operating system communicatively coupled to the operating system extension as ordinary file system requests from an application that is not aware of WebDAV or HTTP protocol.

2. (Currently Amended) The system of Claim 1 wherein in response to the file system requests, the network access application program creates a local cache file, locks the remote

file of the web server for exclusive access to prevent others from accessing the remote file at the web server, caches substantially entire content of the remote file into the local cache file using one or more WebDAV commands, and returns a file handle of the local cache file to the file system plug-in to enable the file system plug-in to process the file system requests using content of the local cache file ~~processes a plurality of responses to the file system requests received as WebDAV or HTTP packets and passes the responses to the operating system extension which forwards information from the responses.~~

3. (Currently Amended) The system of Claim 2 wherein the local cache file is synchronized with the remote file stored in the web server when a predetermined period of time passes or a predetermined amount of content of the local cache file has been changed ~~the file system requests involving file systems stored on one of the plurality of web servers originate from an operating system client, and the information from the responses is forwarded to the operating system client.~~

4. (Currently Amended) The system of Claim ~~[[3]]~~ 2 wherein after the file system requests have been processed, the network access application program writes modified portions of the local cache file back to the remote file, unlocks the remote file, and closes the remote file using one or more WebDAV compatible commands ~~the operating system client is any of a plurality of user accessible application programs.~~

5. (Currently Amended) The system of Claim ~~[[4]]~~ 2 wherein the network access application program maintains an array having a plurality of entries to store file descriptors of the local cache files paired with a URI (uniform resource indicator) of the remote file stored in

the web server associated with the respective local cache file, wherein the network access application program returns an index of the corresponding entry as a file handler and the file descriptor to the file system plug-in, and wherein the file descriptor is used by the file system plug-in to access the respective local cache file and the index is used as a reference by the file system plug-in to instruct the network access application program to access the remote file using the corresponding URI ~~operating system extension and the network access application program communicate with each other via sockets.~~

6. (Currently Amended) A method comprising:

receiving a file system request involving a remote file system from a file system plug-in communicatively coupled to a file system of an operating system ~~extension~~, the file system plug-in ~~operating system extension~~ receiving the file system request as an ordinary file system request from an application in a format other than ~~unaware of a hypertext transfer protocol or distributed authoring and versioning (HTTP/WebDAV) protocol;~~

creating a ~~an~~ HTTP/WebDAV formatted request in response to the file system request;

converting one or more characters of the file system request that are unrecognizable by the WebDAV enabled HTTP server into one or more escape sequences that are recognizable by the WebDAV enabled HTTP server;

forwarding the ~~HTTP/WebDAV~~ formatted request to an appropriate WebDAV enabled HTTP server;

receiving a response from the WebDAV enabled HTTP server; and

transferring an information contained in the response to the file system plug-in ~~operating system extension~~, wherein the information is presented as an ordinary file system response ~~to the HTTP/WebDAV-unaware application.~~

7. (Canceled)

8. (Currently Amended) The method of Claim 6 ~~wherein receiving a file system request comprises:~~

~~obtaining at least a uniform resource identifier (URI) and a request type; further comprising:~~

~~creating a local cache file in response to the file system request;~~

~~locking a remote file being accessed by the file system request for exclusive access to prevent others from accessing the remote file;~~

~~caching substantially entire content of the remote file into the local cache file uysing one or more WebDAV compatible commands; and~~

~~returning a file handler of the local cache file, wherein the file handler is used to process the file system request using content of the local cache file.~~

9. (Currently Amended) The method of Claim 8 further comprising synchronizing the content of the local cache file and the remote file when a predetermined period of time passes or a predetermined amount of content of the local cache file has been changed ~~wherein creating comprises:~~

~~selecting an appropriate WebDAV/HTTP method responsive to the request type.~~

10. (Currently Amended) The method of Claim ~~[[6]]~~ 8 further comprising:

~~extracting an information from the response.~~

writing at least modified portions of the local cache file back to the remote file after the file system request has been processed;

unlocking the remote file; and

closing the remote file using one or more WebDAV compatible commands.

11. (Currently Amended) The method of Claim further comprising ~~10 wherein extracting comprises:~~

converting a WebDAV/HTTP status code to a corresponding local operating system error code.

12. (Currently Amended) The method of Claim ~~[[10]]~~ 8 further comprising:

~~creating a local cache file to store at least the information.~~

maintaining an array having a plurality of entries, each entry including a file descriptor associated with the respective local cache file, the file descriptor being paired with a URI associated with a location of the remote file stored in a web server.

13. (Currently Amended) The method of Claim 12 wherein the file descriptor is used by the file system plug-in to access the respective local cache file and the URI is used by the network access application program to access the remote file. ~~transferring comprises:~~

~~passing a file handle to the local cache file or at least a portion of the information.~~

14. (Currently Amended) The method of Claim 13 wherein an index of an entry is used by the file system plug-in to instruct the network access application program to access the remote file using the URI stored in the entry referenced by the index. ~~10 further comprising:~~

~~updating a local cache file responsive to the information.~~

15. (Currently Amended) A method comprising:

receiving, at a file system plug-in communicatively coupled to a file system of an operating system extension, a file system request from an application program via an application program interface (API), ~~the application program being unaware of~~ file system request being in a format other than a hypertext transfer protocol or distributed authoring and versioning (HTTP/WebDAV) protocol;

if the file system request involves a remote file system, forwarding the file system request to a network access application program (NAAP) communicatively coupled to the file system plug-in ~~operating system extension~~, the NAAP creating a ~~an~~ HTTP/WebDAV formatted request in response to the file system request;

converting one or more characters of the file system request that are unrecognizable by the WebDAV enabled HTTP server into one or more escape sequences that are recognizable by the WebDAV enabled HTTP server;

forwarding the ~~HTTP~~/WebDAV formatted request to an appropriate WebDAV enabled HTTP server over the Internet;

receiving a response from the WebDAV enabled HTTP server in WebDAV ~~or HTTP~~ format such that the NAAP creates a reformatted response; and

transferring the reformatted response to the application program via the API as an ordinary file system response.

16. (Original) The method of Claim 15 wherein receiving a file system request comprises:

obtaining at least a uniform resource identifier (URI) and a request type.

17. (Original) The method of Claim 15 wherein receiving a response further comprises:
creating a local cache file to store an information extracted from the response.
18. (Original) The method of Claim 17 wherein transferring comprises:
passing a file handle to the local cache file or at least a portion of the information.
19. (Original) The method of Claim 15 further comprising:
updating a local cache file responsive to an information extracted from the response.
20. (Original) The method of Claim 15 further comprising:
if the file system request involves a locally cached remote file system, obtaining
information responsive to the file system request from a local cache file.
21. (Original) The method of Claim 20 wherein receiving a file system request comprises:
extracting a file handle to the locally cached remote file system from the file system
request.
22. (Currently Amended) The method of Claim 20 wherein forwarding the request to the
NAAP, forwarding the ~~HTTP~~/WebDAV formatted request, and receiving a response are
bypassed when the file system request involves the locally cached remote file system.
23. (Currently Amended) A machine readable medium having stored thereon instructions
which when executed by a processor cause the machine to perform operations comprising:

receiving, at a file system plug-in communicatively coupled to a file system of an operating system extension, a file system request from an application program via an application program interface (API), ~~the application being unaware of~~ file system request being in a format other than a hypertext transfer protocol or distributed authoring and versioning protocol (HTTP/WebDAV);

if the file system request involves a remote file system, forwarding the file system request to a network access application program (NAAP) communicatively coupled to the file system plug-in operating system extension, the NAAP creating ~~a an HTTP/WebDAV~~ formatted request in response to the file system request;

converting one or more characters of the file system request that are unrecognizable by the WebDAV enabled HTTP server into one or more escape sequences that are recognizable by the WebDAV enabled HTTP server;

forwarding the ~~HTTP/WebDAV~~ formatted request to an appropriate WebDAV enabled HTTP server over the Internet;

receiving a response from the WebDAV enabled HTTP server in WebDAV or HTTP format such that the NAAP creates a reformatted response; and

transferring the reformatted response to the application program via the API as an ordinary file system response.

24. (Original) The machine readable medium of Claim 23 wherein receiving a file system request comprises:

obtaining at least a uniform resource locator (URL) and a request type.

25. (Original) The machine readable medium of Claim 24 wherein receiving a response comprises:

if a corresponding local cache file exists, updating the corresponding local cache file responsive to an information extracted from the response; and

if the corresponding local cache file does not exist, creating the corresponding local cache file to store the information extracted from the response.

26. (Original) The machine readable medium of Claim 25 wherein transferring comprises:

passing a file handle to the corresponding local cache file or at least a portion of the information.

27. (Original) The machine readable medium of Claim 23 wherein the instructions executed by the processor cause the system to perform operations further comprising:

if the file system request involves a locally cached remote file system, obtaining information responsive to the file system request from a local cache file.

28. (Original) The machine readable medium of Claim 27 wherein receiving the file system request comprises:

extracting a file handle to the locally cached remote file system from the file system request.

29. (Currently Amended) The machine readable medium of Claim 27 wherein forwarding the request to the NAAP, forwarding the ~~HTTP~~/WebDAV formatted request, and

receiving a response are bypassed when the file system request involves the locally cached remote file system.

30. (Currently Amended) A machine readable medium having stored thereon instructions which when executed by a processor cause the machine to perform operations comprising:

receiving a file system request involving a remote file system from a file system plug-in communicatively coupled to a file system of an operating system extension, the file system plug-in operating system extension receiving the file system request as an ordinary file system request from an application ~~unaware of~~ in a format other than a hypertext transfer protocol or distributed authoring and versioning (HTTP/WebDAV) protocol;

creating ~~a an~~ HTTP/WebDAV formatted request in response to the file system request;

converting one or more characters of the file system request that are unrecognizable by the WebDAV enabled HTTP server into one or more escape sequences that are recognizable by the WebDAV enabled HTTP server;

forwarding the HTTP/WebDAV formatted request to an appropriate WebDAV enabled HTTP server;

receiving a response from the WebDAV enabled HTTP server; and

transferring an information contained in the response to the file system plug-in operating system extension, wherein the information is presented as an ordinary file system response ~~to the HTTP/WebDAV unaware application.~~

31. (Canceled)

32. (Original) The machine readable medium of Claim 30 wherein receiving a file system request comprises:

obtaining at least a uniform resource identifier (URI) and a request type.

33. (Currently Amended) The machine readable medium of Claim 32 wherein creating comprises:

selecting an appropriate WebDAV/~~HTTP~~ method responsive to the request type.

34. (Original) The machine readable medium of Claim 30 wherein the instructions executed by the processor cause the system to perform operations further comprising:

extracting an information from the response.

35. (Currently Amended) The machine readable medium of Claim 30 wherein extracting comprises:

converting a WebDAV/~~HTTP~~ status code to a corresponding local operating system error code.

36. (Original) The machine readable medium of Claim 34 wherein the instructions executed by the processor cause the system to perform operations further comprising:
creating a local cache file to store at least the information.

37. (Original) The machine readable medium of Claim 36 wherein transferring comprises:
passing a file handle to the local cache file or at least a portion of the information.

38. (Original) The machine readable medium of Claim 34 wherein the instructions executed by the processor cause the system to perform operations further comprising:

updating a local cache file responsive to the information.

39. (Currently Amended) A computer system comprising:

at least one application program;

an operating system providing a file system interface;

~~an operating system extension~~ a file system plug-in coupled to the file system interface

to receive from the file system interface of the operating system a request for a remotely stored file that initiated from the application program and to forward the request for the remotely stored file;

a network access application program to receive the request for the remotely stored file from the file system plug-in ~~operating system extension~~, to translate a file name information specified in the request from a local file system syntax to a remote server syntax, and to package the request according to ~~a well known~~ a distributed authoring and versioning (WebDAV) protocol for communication to access a remote file of a user specified remote WebDAV enabled HTTP server over the Internet ~~computer system over a network~~,

wherein the request includes a filename of a file being accessed and wherein if the filename includes one or more characters that are unrecognized by the web server, the network access application program converts the unrecognized characters of the filename into one or more escape sequences recognizable by the web server prior to transmitting the converted file system requests to the web server, the one or more escape sequences representing the one or more unrecognizable characters.

40. (Original) The computer system of Claim 39 wherein the network access application program reformats a response received from the user specified remote computer system, including reverse translating any file name information from a remote server syntax to a local file system syntax, and forwards a reformatted response to the operating system extension program.

41. (Original) The computer system of Claim 40 wherein the remote server syntax is the syntax of a uniform resource identifier (URI).

42. (Currently Amended) A method comprising:

receiving, at a file system of an operating system, a file system request from an application program;

if the file system request involves a remote file system on a remote computer system, forwarding from the file system of the operating system the request to a network access application program which translates a file name information specified in the request from a local file system syntax to a remote server syntax compatible with a distributed authoring and versioning (WebDAV) protocol and

converting one or more characters of the request that are unrecognizable by the remote computer system into one or more escape sequences that are recognizable by the remote computer system;

~~communicates~~ communicating the request ~~in a well known format~~ to the remote computer system over a wide area network;

reformatting a response from the remote computer system forwarded by the remote access application program which reverse translates ~~any~~ file name information specified in the response from the remote server syntax to the local file system syntax; and
transferring the reformatted response to the application program.

43. (Original) The method of Claim 42 wherein receiving comprises:

obtaining the file system request via a local file system interface of an operating system.

44. (Original) The method of Claim 42 wherein the remote server syntax is the syntax of a uniform resource identifier (URI).